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FROM: Stephen A. Terrile
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SUBJECT: USSN 09/847,244
              Attorney Docket No. DC-02828
              Customer No. 33438

This transmittal consists of 14 page(s), including this cover sheet.

MESSAGE:

Enclosed for filing in USSN 09/847,244, please find a Revised and Resubmitted Appeal Brief (13 pages). Thank you.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): ·	Melissa D. Beebe, Heather L. Fenner, Kevin T. Jones		
Assignee:	Dell Products L.P.		
Title:	Automated Data Warehouse for Demand Fulfillment System		
Serial No.:	09/847,244	Filing Date:	May 1, 2001
Examiner:	Elaine Gort	Group Art Unit:	3627
Docket No.:	DC-02828	Customer No.:	33438

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REVISED AND RESUBMITTED APPEAL BRIEF UNDER 37 CFR § 1.191

Dear Sir:

Applicants resubmit this revised Appeal Brief in response to the Communication Re: Appeal mailed on February 16, 2005. This Appeal Brief has been revised to respond to the Examiner's objections to the Appeal Brief and also to place the Appeal Brief in conformance with current rules relating to Appeal Briefs.

A check in the amount of $340.00 to cover the fee for the Appeal Brief was submitted with the previously filed Appeal Brief. The Commissioner is hereby authorized to deduct any additional amounts required for this appeal brief and to credit any amounts overpaid to Deposit Account No. 502264.

I. REAL PARTY IN INTEREST

The real party in interest is the assignee, Dell Products L.P. as named in the caption above.

II. RELATED APPEALS AND INTERFERENCES

Based on information and belief, there are no appeals or interferences that could directly affect or be directly affected by or have a bearing on the decision by the Board of Patent Appeals in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 – 12 and 19 - 30 are pending in the application. Claims 1 – 12 have been rejected. Apparently claims 19 - 30 which were filed in the Supplemental Response dated March 11, 2004 have not been examined. Claims 1 – 12 and 19 - 30 are appealed. Appendix "A" contains the full set of pending claims.

IV. STATUS OF AMENDMENTS

No Amendments have been filed subsequent to final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention, as set forth by independent claim 1, relates to a method for scheduling work and delivery of material for mass-producing items in a factory. The method includes obtaining at least one outstanding customer order (see, e.g., step 410), determining a current state of an available inventory of at least one material from a plurality of material sources (see e.g., step 420), and periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory (see e.g., step 440). Each outstanding customer of the at least one outstanding customer order includes an item ordered by a customer, and producing the item requires a required quantity of a required material. The periodically generating occurs at fixed time intervals (see e.g., page 12, lines 1 – 28 and Figure 2). The periodically generating occurs more than once during a manufacturing shift (see e.g., page 12, line 29 – Page 13, line 10 and Figure 2). The determining the current state of the available inventory is performed such that the

determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 13, lines 11 – 18 and Figure 2). The obtaining the at least one outstanding customer order is performed such that the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 12, lines 14 – 25 and Figure 2).

The present invention, as set forth by new independent claim 19, relates to a method for scheduling work and delivery of material for mass-producing information handling systems in a factory which includes obtaining a plurality of customer orders (see e.g., step 410), determining a current state of an available inventory of at least one component from a plurality of component sources (see e.g., step 410) and periodically generating a work schedule and a material delivery schedule for producing the ordered information handling system using the customer order and the current state of the available inventory (see e.g., step 440). Each customer order of the plurality of customer orders includes an ordered information handling system. The customer order specifies components for the corresponding ordered information handling system. Producing the information handling system ordered by the customer requires a plurality of components (see e.g., page 9, lines 11 – 18). At least one of the plurality of components varying from one ordered information handling system and another ordered information handling system based upon components specified by the customer order. Additionally, the determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 13, lines 11 – 18 and Figure 2). The obtaining each of the plurality of customer orders is performed such that the obtaining the plurality of customer orders is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 12, lines 14 – 25 and Figure 2).

VI. GROUNDS FOR REJECTION TO BE REVIEWED ON APPEAL

Claims 1 – 12 stand rejected under 35 U.S.C. ___ 102 over Noori, *Production and Operations Management*, McGraw-Hill, Inc. (1995), pp 422-601 (Noori).

Claims 19 – 30 filed on March 11, 2004 are not presently rejected and apparently have not been examined.

VII. ARGUMENTS

Claims 1 – 12 are allowable over Noori

The present invention provides an automated data warehouse 322, 362, 352, 372 and 332 (See Specification page 18, lines 6 - 20) for a demand fulfillment system 310 to provide current supply and demand for generating a work schedule and a material delivery schedule for manufacturing items, particularly commodities, built to customer order. The automated data warehouse uses outstanding customer orders for items as an accurate measure of current demand 410, and a current state of an available inventory of material for producing the items 420 as an accurate measure of current supply. The automated data warehouse uses all customer orders as a source of demand from the time the customer order is received until the customer order is fulfilled.

The specification sets forth

> The phrase "[performing a function] immediately prior [to an event]" is used to describe performing a function at the last possible moment such that insufficient time remains to perform the function again before the event. This phrase is used to describe determining the current state of the available inventory and obtaining outstanding customer orders, and is intended to indicate that the inputs to generating the schedules are continuously updated so that they continuously reflect current supply and demand. With a current measure of supply and demand, work and material delivery schedules are accurate and efficient, minimizing excess inventory in the factory and producing items to fulfill customer demand as quickly and efficiently as possible. (Application, page 20, lines 7 – 15.)

Additionally, the specification sets forth

> Another advantage of the invention is that it enables the factory to initiate more than one work schedule/build cycle and material delivery schedule during a given time period, such as during a manufacturing shift, without the need to maintain substantial in-house inventory of parts and/or raw materials. Manufacturing and delivery of materials are scheduled in response to customer demand rather than driven by a demand forecast or scheduled only at fixed intervals. More than one work schedule and material delivery schedule can be provided during a given time period because the automated data

warehouse provides an almost immediate source of current supply and demand. (Application, page 21, lines 5 – 12.)

More specifically, the present invention, as set forth by independent claim 1, relates to a method for scheduling work and delivery of material for mass-producing items in a factory. The method includes obtaining at least one outstanding customer order (see, e.g., step 410), determining a current state of an available inventory of at least one material from a plurality of material sources (see e.g., step 420), and periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory (see e.g., step 440). Each outstanding customer of the at least one outstanding customer order includes an item ordered by a customer, and producing the item requires a required quantity of a required material. The periodically generating occurs · at fixed time intervals (see e.g., page 12, lines 1 – 28 and Figure 2). The periodically generating occurs more than once during a manufacturing shift (see e.g., page 12, line 29 – Page 13, line 10 and Figure 2). The determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 13, lines 11 – 18 and Figure 2). The obtaining the at least one outstanding customer order is performed such that the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 12, lines 14 – 25 and Figure 2).

Noori includes a plurality of chapters relating to various aspects of production and operations management. For example, Noori, Chapter 13 is titled "Managing Inventories: Independent Demand Systems", Noori, Chapter 14 is titled "Aggregate Planning", Noori, Chapter 15 is titled "Material Requirements Planning", Noori, Chapter 16 is titled "Just-In-Time and Synchronous Operations", and Noori, Chapter 17 is titled "Upstream-Downstream Materials Management".

When discussing Noori, the examiner sets forth that:

> Examiner contends that Noorie does teach or suggest a method in which each outstanding customer order of the at least one outstanding customer order includes an item ordered by a customer (such as the appliance ordered or hamburger requested), and

producing the time requires a required quantity of a required material (eg appliances require specific materials as do hamburgers),

the determining the current state of the available inventory is preformed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule the generation of work scheduling and delivery schedules (such as the work schedule and material delivery schedule are completed after the GE system checks availability and establishes the work schedule and delivery schedule, likewise in the hamburger illustration where the inventory is determined before the team decides to produce more hamburgers for an expected delivery time when a request is made by a guest), and the obtaining the at least one outstanding customer order is performed such that the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule (such as when the just-in-time system only responds when orders or demands requires it, e.g. GE generates a work schedule to produce an appliance after one is ordered, hamburgers are cooked after guest request or take them). (Final office action, page 5.)

In general, Noori does not teach or suggest a method for scheduling work and delivery of material for mass-producing items in a factory where such a method includes obtaining at least one outstanding customer order, determining a current state of an available inventory of at least one material from a plurality of material sources, and *periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory.*

Specifically, Noori does not teach or suggest such a method in which the periodically generating occurs *at fixed time intervals,* the *periodically generating occurs more than once during a manufacturing shift,* the determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed *immediately prior to the generating the work schedule and the material delivery schedule,* and the obtaining the at least one outstanding customer order is performed such that *the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule,* all as required by independent claim 1.

Accordingly, independent claim 1 is allowable over Noori. Claims 2 – 11 depend from claim 19 and are allowable for at least this reason.

Claims 19 - 30 are allowable over Noori

The present invention, as set forth by independent claim 19, relates to a method for scheduling work and delivery of material for mass-producing information handling systems in a factory which includes obtaining a plurality of customer orders (see e.g., step 410), determining a current state of an available inventory of at least one component from a plurality of component sources (see e.g., step 410) and periodically generating a work schedule and a material delivery schedule for producing the ordered information handling system using the customer order and the current state of the available inventory (see e.g., step 440). Each customer order of the plurality of customer orders includes an ordered information handling system. The customer order specifies components for the corresponding ordered information handling system. Producing the information handling system ordered by the customer requires a plurality of components (see e.g., page 9, lines 11 – 18). At least one of the plurality of components varying from one ordered information handling system and another ordered information handling system based upon components specified by the customer order. Additionally, the determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 13, lines 11 – 18 and Figure 2). The obtaining each of the plurality of customer orders is performed such that the obtaining the plurality of customer orders is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., page 12, lines 14 – 25 and Figure 2).

In general, Noori does not disclose or suggest a method for scheduling work and delivery of material for mass-producing *information handling systems* in a factory which includes obtaining a plurality of customer orders, determining a current state of an available inventory of at least one component from a plurality of component sources and *periodically* generating a work schedule and a material delivery schedule for producing the ordered information handling system using the customer order and the current state of the available inventory.

Specifically, Noori does not disclose ore suggest such a method in which each customer order of the plurality of customer orders includes *an ordered information handling system*; the customer order specifies components for the corresponding ordered information handling

system; producing the information handling system ordered by the customer requires a plurality of components; and, *at least one of the plurality of components varying from one ordered information handling system and another ordered information handling system based upon components specified by the customer order.*
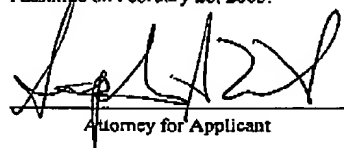
Additionally, Noori does not disclose or suggest such a method in which the determining the current state of the available inventory is performed such that *the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule*; and *the obtaining each of the plurality of customer orders is performed such that the obtaining the plurality of customer orders is completed immediately prior to the generating the work schedule and the material delivery schedule.*

Accordingly, independent claim 19 is allowable over Noori. Claims 20 – 30 depend from claim 19 and are allowable for at least this reason.

IX. CONCLUSION

For the above reasons, Applicants respectfully submit that rejection of pending claims 1 – 12 and 19 - 30 is unfounded. Accordingly, Applicants request that the rejection of claims 1 – 12 and 19 - 30 be reversed.

This paper is submitted in triplicate.

I hereby certify that this correspondence is being sent to the COMMISSIONER FOR PATENTS via the USPTO Central Facsimile on February 28, 2005.

_____   2/28/05
Attorney for Applicant   Date of Signature

Respectfully submitted,

Stephen A. Terrile
Attorney for Applicant
Reg. No. 32,946

APPENDIX "A"

1.　　A method for scheduling work and delivery of material for mass-producing items in a factory comprising:

obtaining at least one outstanding customer order, wherein each outstanding customer of the at least one outstanding customer order includes an item ordered by a customer, and producing the item requires a required quantity of a required material;

determining a current state of an available inventory of at least one material from a plurality of material sources; and

periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory, wherein

the periodically generating occurs at fixed time intervals;

the periodically generating occurs more than once during a manufacturing shift;

the determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule; and

the obtaining the at least one outstanding customer order is performed such that the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule.

2.　　The method of claim 1 wherein

the at least one outstanding customer order and the current state of the available inventory are posted continuously for the generating the work schedule and the material delivery schedule.

3.　　The method of claim 1 wherein

the at least one outstanding customer order and the current state of the available inventory are posted continuously to an automated data warehouse.

4.   The method of claim 1 wherein the determining the current state of the available inventory includes determining for each material of the at least one material of the available inventory:

a material source of the plurality of material sources from which the material can be obtained, wherein the material source is updated continuously;

an available quantity of the available material at the material source, wherein the available quantity is updated continuously; and

an availability time of the available quantity of the material at the material source to each operation of at least one operation of each manufacturing line of at least one manufacturing line of the factory, wherein the availability time is updated continuously.

5.   The method of claim 1 wherein

the obtaining the at least one outstanding customer order includes using a status for each customer order of at least one customer order, wherein the status for each customer order is updated continuously; and

the status for each outstanding customer order corresponds to an outstanding status.

6.   The method of claim 1 wherein the available inventory comprises external inventory.

7.   The method of claim 1 wherein the available inventory comprises work-in-progress inventory.

8.   The method of claim 1 wherein the available inventory comprises in-transit inventory.

9.   The method of claim 1 wherein the available inventory comprises in-house inventory.

10.   The method of claim 1 wherein the periodically generating the work schedule and the material schedule includes generating the work schedule and the material delivery schedule every two hours.

11.   The method of claim 1 wherein

a the manufacturing shift comprises a number of hours less than or equal to eight; and

the periodically generating the work schedule and the material schedule includes generating the
    work schedule and the material delivery schedule a plurality of times during the
    manufacturing shift.

12.   The method of claim 1 wherein

the plurality of material sources comprises an external material source, the external material
    source providing an external inventory of a first material of the at least one material of
    the available inventory; and
    the determining the available inventory of the material includes using an external
        visibility interface module to determine the available inventory of the first
        material in the external inventory.

19.   A method for scheduling work and delivery of material for mass-producing
information handling systems in a factory comprising:

obtaining a plurality of customer orders, each customer order of the plurality of customer orders
    including an ordered information handling system, the customer order specifying
    components for the corresponding ordered information handling system, producing the
    information handling system ordered by the customer requiring a plurality of
    components, and at least one of the plurality of components varying from one ordered
    information handling system and another ordered information handling system based
    upon components specified by the customer order;

determining a current state of an available inventory of at least one component from a plurality
    of component sources; and

periodically generating a work schedule and a material delivery schedule for producing the
    ordered information handling system using the customer order and the current state of the
    available inventory, wherein
    the determining the current state of the available inventory is performed such that the
        determining the current state of the available inventory is completed immediately
        prior to the generating the work schedule and the material delivery schedule; and
    the obtaining each of the plurality of customer orders is performed such that the obtaining
        the plurality of customer orders is completed immediately prior to the generating

the work schedule and the material delivery schedule.

20.   The method of claim 19 wherein

the customer order and the current state of the available inventory are posted continuously for the
generating the work schedule and the material delivery schedule.

21.   The method of claim 19 wherein

the customer order and the current state of the available inventory are posted continuously to an
automated data warehouse.

22.   The method of claim 19 wherein the determining the current state of the available
inventory includes

determining a current state of the available inventory for each component of the plurality of
components;

a component source of the plurality of component sources from which the component can be
obtained, wherein the component source is updated continuously;

an available quantity of the available component at the component source, wherein the available
quantity is updated continuously; and

an availability time of the available quantity of the component at the component source to each
operation of at least one operation of each manufacturing line of at least one
manufacturing line of the factory, wherein the availability time is updated continuously.

23.   The method of claim 19 wherein

the obtaining the customer order includes using a status for each customer order, wherein the
status for each customer order is updated continuously; and

the status for each customer order corresponds to an outstanding status.

24.   The method of claim 19 wherein

the available inventory comprises external inventory.

25.   The method of claim 19 wherein

the available inventory comprises work-in-progress inventory.

26.   The method of claim 19 wherein

the available inventory comprises in-transit inventory.

27.   The method of claim 19 wherein
the available inventory comprises in-house inventory.

· 28.   The method of claim 19 wherein
the periodically generating the work schedule and the material schedule includes generating the
        work schedule and the material delivery schedule every two hours.

29.   The method of claim 19 wherein
a manufacturing shift comprises a number of hours less than or equal to eight; and
the periodically generating the work schedule and the material schedule includes generating the
        work schedule and the material delivery schedule a plurality of times during the
        manufacturing shift.

30.   The method of claim 19 wherein
the plurality of component sources comprises an external component source, the external
        component source providing an external inventory of the first component; and
        the determining the available inventory of the component includes using an external
                visibility interface module to determine the available inventory of the first
                component in the external inventory.